

Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

1. (Currently amended) A surgical handpiece for actuation of a cutting accessory attached to said handpiece, said handpiece comprising:

a housing, said housing formed to define a suction bore that extends from the cutting accessory and a suction passage;
a power generating unit disposed in said housing for actuating the cutting accessory;

a valve assembly, said valve assembly including-a:

~~a valve chamber defined by said housing wherein, the valve chamber is formed in said housing to intersect between the suction bore and the suction passage; and~~

~~a valve stem rotatably mounted in the valve chamber and including a movable control member disposed outside of said housing, said valve stem being formed to have a valve bore and said valve stem is formed so that the valve bore has a that extends therethrough with first and second non-circular valve bore opening that openings at the opposite ends of said valve bore, wherein the first valve bore opening is selectively placed in registration with the suction bore and the second valve bore opening is placed in registration with the suction passage as the valve stem is rotated from a closed state to a fully open state, wherein the first valve bore opening is further being shaped to have a first narrow width section that is first placed in registration with the suction bore during the rotation of the valve stem from the closed state to the fully open state and a second, wide width section that is placed in registration with the suction bore as said valve stem is further rotated toward~~

the fully open state, the second valve bore opening being shaped to have a first narrow width section that is first placed in registration with the suction passage during the rotation of the valve from the closed state to the fully open state and a second, wide width section that is placed in registration with the suction passage as the valve is further rotated toward the fully open state; and a lever attached to said valve stem that is located outside of said housing.

2. (Currently amended) The surgical handpiece of Claim 1, wherein:

~~said said valve comprises:~~
~~a valve stem is formed from rigid material and is further shaped to have a stem bore that extends through said valve member; and~~
~~a valve barrel formed of flexible material is seated in and having a portion which extends through the stem bore and said valve barrel is formed so as to define the valve bore including and the valve bore openings.~~

3. (Currently amended) The surgical handpiece of Claim 2, wherein said valve barrel is further formed to define a rib that is located around a perimeter of the each said valve bore opening and, each said rib is being positioned to extend away from said valve member stem and is being dimensioned to abut a surface of said housing that defines the valve chamber.

4. (Currently amended) The surgical handpiece of Claim 2, wherein said valve barrel is further formed to have a circular rib that extends circumferentially around said valve stem, said rib being dimensioned to extend away from said valve stem and to abut a surface of said housing that defines the valve chamber.

5. (Currently amended) The surgical handpiece of Claim 1, further including an indexing assembly attached to said valve assembly and said housing for providing a resistance to the rotation of said valve ~~stem~~ when said valve ~~stem~~ is rotated to a position in which the first narrow width section of the first valve bore opening ~~first section~~ is placed in partial registration with the suction bore.

6. (Currently amended) The surgical handpiece of Claim 5, wherein:

said housing is formed so that the valve chamber ~~is comprises~~ a closed bore that has a base defined by an inner surface of said housing;

said valve ~~stem~~ is formed with an end surface that is located adjacent the inner surface of said housing that defines the base of the valve chamber; and

a retaining member is positioned in one of said valve ~~stem, valve stem or~~ and said housing and is positioned to engage the other one of said housing, and said valve ~~stem or~~ ~~said valve arm~~ to removably hold said valve ~~stem~~ in the valve chamber.

7. (Currently amended) TheA surgical handpiece of ~~claim 1, wherein: for actuation of a cutting accessory attached to said handpiece, said handpiece comprising:~~

a housing, said housing formed to define a suction bore that extends from the cutting accessory;

a power generating unit disposed in said housing for actuating the cutting accessory;

a valve assembly, said valve assembly including:

a — said housing is formed so that the valve chamber is formed in said housing to intersect the suction bore, said valve chamber comprising a closed bore that has a base defined by an inner surface of said housing;

said a valve ~~stem~~ rotatably mounted in the valve chamber, said valve being formed to have a valve bore and

~~is formed with an end surface that is located adjacent the inner surface of said housing that defines the base of the valve chamber, said valve bore having a non-circular valve bore opening that is selectively placed in registration with the suction bore as the valve is rotated from a closed state to a fully open state, the valve bore opening being shaped to have a first narrow width section that is first placed in registration with the suction bore during the rotation of the valve from the closed state to the fully open state and a second, wide width section that is placed in registration with the suction bore as said valve is further rotated toward the fully open state; and~~

~~a retaining member is positioned in one of a bore defined in said valve stem, valve arm or said housing and is positioned to engage one, said bore being positioned so that said retaining member is directed towards a surface of said housing, said valve stem or said valve arm to removably hold said valve stem in the valve chamber; and~~

~~a removable locking member positioned to engage said retaining member.~~

8. (Cancelled).

9. (Currently amended) The surgical handpiece of Claim 1, wherein ~~said valve stem is shaped to have first and second valve bore openings at the opposed ends of said valve bore, each said valve bore opening being non-circular and having a narrow width section and a wide width section, wherein said valve stem is further formed so that the valve bore is shaped so that the valve bore openings have opposed orientations relative to a lateral axis of said valve stem~~ ~~first and second valve bore openings are identically shaped but inverted relative to one another on opposite sides of said valve such that said first narrow width section of said first valve bore~~

opening is disposed circumferentially adjacent said second wide width section of said second valve bore opening, and said second wide width section of said first valve bore opening is disposed circumferentially adjacent said first narrow width section of said second valve bore opening.

10. (Currently amended) A surgical handpiece for actuation of a cutting accessory attached to said handpiece, said handpiece comprising:

a housing, said housing being formed to define a suction bore that extends from the cutting accessory and a valve chamber that intersects the suction bore;

a power generating unit disposed in said housing for actuating the cutting accessory;

a valve assembly, said valve assembly including—a:

a valve stem formed from rigid material and moveably mounted in the valve chamber, said valve stem being formed from to define a valvestem bore that has extends through said valve stem;

a valve barrel comprising flexible material and having a portion disposed within the stem bore so as to define a valve bore, said valve bore having a non-circular valve opening that is selectively placed in registration with the suction bore, said valve stem being further formed so that the valve opening has having a first section with a first cross sectional width and a second section that is contiguous with the first section and having that has a second cross sectional width that is greater than the first cross sectional width and so, such that when said valve stem is moved from a closed position to an open position, the valve opening the first section of the valve opening moves into registration with the suction bore before the second section of the valve bore opening second sections moves into registration with the suction bore; and

a moveable control member connected to said valve stem that is located outside of said housing for manually establishing the position of said valve stem.

11. (Currently amended) The surgical handpiece of Claim 10, wherein said valve stem is rotatably moveable in the valve borechamber.

12. (Currently amended) The surgical handpiece of Claim 11, further including an indexing assembly attachedsecured to said valve assembly and said housing for providing a set resistance to the rotation of said valve stem when said valve stem is rotated to a position in which the first section of the valve bore opening first seetion is placed in partial registration with the suction bore.

13. (Cancelled).

14. (Currently amended) The surgical handpiece of Claim 10, wherein:

~~said valve stem is formed from rigid material and is further formed to have a stem bore that extends through said valve stem;~~

~~a valve barrel formed flexible material is seated in the stem bore and said valve barrel is formed to define the valve bore including the valve bore opening and said valve barrel is further formed to define a first rib that is located around a perimeter of the valve bore opening and dimensioned to contact a surface of said housing that defines the valve chamber.~~

15. (Currently amended) The surgical handpiece of Claim 14, wherein: ~~said valve barrel is further formed to have a second rib that extends circumferentially around said valve stem, said second rib being dimensioned to contact the surface of said housing that defines the valve chamber.~~

16. (Currently amended) A surgical handpiece for actuation of a cutting accessory attached to said cutting accessory, said handpiece comprising:

a housing, said housing shaped to have a suction bore that extends from the cutting accessory and a valve chamber that intersects the suction bore;

a power generating unit disposed in said housing for actuating the cutting accessory; and

a valve assembly, said valve assembly including—a:

a valve stem rotatably mounted in the valve chamber, said valve stem being formed from rigid material and being shaped to ~~a~~ have an outer surface and a valve stem bore that extends through said valve stem;

a valve barrel located around the outer surface of said valve stem, said valve barrel being shaped to define a first rib that extends circumferentially around said valve stem, and second and third ribs that extend around opposed openings ~~into the~~ ~~of~~ a valve member bore, said first, second and third ribs being dimensioned to abut surfaces of said housing ~~the defines that~~ define the valve chamber; and

a lever attached to said valve member ~~stem~~ that is located outside of said housing.

17. (Currently amended) The surgical handpiece of Claim 16, wherein:

said valve stem bore has a cross sectional area; and

said valve barrel ~~is~~ includes a portion disposed inside the valve stem bore, said portion defining ~~and is shaped to define at~~ the valve bore ~~that is within the valve stem bore and~~ being shaped to have a cross-sectional area less than ~~the~~ a cross-sectional area of the valve stem bore.

18. (Currently amended) A surgical handpiece for actuation of a cutting accessory attached to said handpiece, said handpiece comprising:

a housing, ~~said housing~~ shaped to define a suction bore that extends from the cutting accessory and a valve chamber that intersects the suction bore;

a power generating unit disposed in said housing for actuating the cutting accessory;

a valve assembly, said valve assembly including—a:

a valve stem rotatably mounted in the valve chamber, said valve stem being formed from rigid material and being shaped to ~~a~~ have a valve stem bore that extends ~~through~~ between openings formed in said valve stem, the valve stem bore having a cross sectional area; and

a valve barrel formed of compressible material and disposed in the valve stem bore, said valve barrel being shaped to define a valve bore that extends through the valve stem bore, the valve bore having opposed valve bore openings and a cross sectional area less than the cross sectional area of the valve stem bore ~~and~~, said valve barrel ~~is~~ being formed to define first and second ribs, each said rib extending around ~~the~~ an outer perimeter of a separate one of the valve bore openings and being dimensioned to contact a surface of said housing that defines the valve chamber; and

an arm attached to said valve stem that is located outside of said housing.

19. (Original) The surgical handpiece of Claim 18, wherein said valve barrel is further formed to define a third rib that extends circumferentially around said valve stem and that is dimensioned to contact the surface of said housing that defines the valve chamber.

20. (Currently amended) The surgical handpiece of Claim 18, wherein, ~~said valve barrel is formed to extend~~ has a portion disposed in said valve stem bore and another portion which extends around the outer surface of said valve stem ~~and~~

to have, said valve barrel having a third rib that extends circumferentially around said valve stem and that is dimensioned to contact the surface of said housing that defines the valve chamber and to define a groove that extends circumferentially around said valve stem, the groove being located adjacent said third rib.

21. (Currently amended) The surgical handpiece of Claim 18, wherein:

said housing is formed so that the valve chamber is a closed bore that has a base defined by an inner surface of said housing;

said valve stem is formed with an end surface that is located adjacent the inner surface of said housing that defines the base of the valve chamber; and

said valve barrel is further formed to extend having a portion disposed in said valve stem bore and another portion which extends circumferentially around said valve stem.

22. (Currently amended) A surgical handpiece for actuation of a cutting accessory attached to said handpiece, said handpiece comprising:

a housing, said being formed to define a suction bore that extends from the cutting accessory and a valve chamber that intersects the suction bore, the valve chamber being a closed-ended bore;

a power generating unit disposed in said housing configured to actuate the cutting accessory;

a valve assembly, said valve assembly including:

a stem valve body that is rotatably fitted in the valve chamber and defined by a stem and a lever integral with said stem, the stem being shaped to define a through bore that is selectively placed in registration with the suction bore and a lever that is integral with said stem, wherein said stem or said lever is, said valve body being formed with a first valve hole that is directed towards

said housing and a second ~~valve~~-hole having a portion that intersects the first ~~valve~~-hole; and

a first pin that is slidably fitted in the first ~~valve~~-hole and the portion of the second ~~valve~~-hole that intersects the first ~~valve bore~~hole, and a second pin that is removably fitted in the second ~~valve~~-hole, wherein, said second pin is dimensioned so that said second pin seats in the portion of the second ~~bore~~hole in which said first pin can slide, and said first pin is dimensioned so that when, said second pin is disposed in the portion of said second hole in which said first pin can slide, said first pin is blocked from sliding in the second valve-hole, said first pin and extends out of said first valve-hole and engages a surface of said housing.

23. (Currently amended) The surgical handpiece of Claim 22, wherein: ~~said stem or said lever~~ valve body is formed with a ~~third valve hole;~~ hole, and an indexing member is fitted in the third ~~valve~~-hole and positioned to engage a surface of said housing.

24. (Currently amended) The surgical handpiece of Claim 22, wherein:

said stem is formed from rigid material;
said valve body including a valve barrel formed from compressible material ~~is seated in~~ and having a portion which extends through the ~~through hole~~bore ~~of said stem and~~ said valve barrel defines a valve passage that extends through the ~~through hole~~, the valve passage having opposed passage openings, and said valve barrel is further formed to define ribs that are located around the outer perimeters of the passage openings, the ribs being dimensioned to abut surfaces of said housing ~~that~~ define the valve chamber.

25-28. (Cancelled)

29. (New) A surgical handpiece for actuation of a cutting accessory attached to said handpiece, said handpiece comprising:

a housing defining a suction bore that extends from the cutting accessory;

a power generating unit disposed in said housing for actuating the cutting accessory;

a valve assembly including a valve member positioned to regulate fluid flow through the suction bore;

a suction mount arrangement having a suction mount that is rigidly mounted to said housing and that is fitted to an opening into the suction bore, said suction mount having a proximal end that extends away from said housing; and

a suction fitting that is rotatably mounted to the proximal end of said suction mount, said suction fitting having a groove extending about a circumference thereof, said groove coacting with said suction mount arrangement to enable rotation of said suction fitting with respect to said suction mount.

30. (New) The surgical handpiece for actuation of a cutting accessory of Claim 29, wherein said suction mount arrangement further comprises a removable locking member that coacts with the groove of said suction fitting so that said locking member releasably and rotatably holds said suction fitting to said suction mount.

31. (New) The surgical handpiece for actuation of a cutting accessory of Claim 30, wherein said removable locking member comprises bearings.

32. (New) The surgical handpiece for actuation of a cutting accessory of Claim 31, wherein said suction mount includes a base section with open bore holes spaced about a

circumference thereof, said bearings comprising ball bearings disposed in said holes, and said suction mount arrangement further comprises a retention sleeve for maintaining said ball bearings in said holes, wherein said ball bearings extend into the groove of said suction fitting to enable the rotation of said suction fitting with respect to said suction mount.

33. (New) The surgical handpiece for actuation of a cutting accessory of Claim 30, wherein said groove comprises an outer groove extending about an outer circumference of said suction fitting, said suction mount further comprising an inner groove extending about an inner circumference of said suction mount, said outer groove and said inner groove being in alignment when said suction fitting is secured to said suction mount, and said removable locking member comprises a retaining ring positioned within said grooves.

34. (New) The surgical handpiece for actuation of a cutting accessory of Claim 29, wherein said suction mount includes a base section with a second inner diameter greater than an inner diameter of said end secured to said housing, said base section including fingers extending axially outwardly to form the proximal end of said suction mount, each said finger having a radially inwardly directed tab at the proximal end thereof, said tabs projecting into said groove of said suction mount to axially secure said suction mount and said suction fitting, said fingers and said groove enabling the rotation of said suction fitting with respect to said suction mount.